Biological Evaluation
Water Quality Standards for the Bad River Band
of Lake Superior Chippewa Tribe

Date: SEP 07 2011

I. Description of the Federal Action

The U.S. Environmental Protection Agency intends to approve the water quality standards for the Bad River Band of Lake Superior Chippewa Indians (the "Band") received by EPA on July 21, 2011. Under section 303 of the Clean Water Act (CWA), tribes and states are required to submit adopted water quality standards to the EPA for review and approval. Section 7(a)(2) of the Endangered Species Act (ESA) requires EPA, in consultation with the U.S. Fish and Wildlife Service (FWS), to ensure that any action authorized, funded, or carried out by federal agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat for such species. In order to approve the Band's standards, EPA is documenting the coordination with the FWS within this biological evaluation.

II. Action Area

The attached map specifies the scope of the area where the Band's standards will apply. This area includes the mainland Reservation and also Amnicon Point on Madeline Island. The Reservation consists of approximately 124,644 acres and is located in Ashland and Iron counties along the Lake Superior shoreline in northwestern Wisconsin. EPA approved the Band's application authorizing a water quality standards program on June 26, 2009. Within that application, the Band specified that it is not exerting water quality standards regulatory authority over the waters of Lake Superior, or Chequamegon Point; a peninsula that extends partially across the mouth of Chequamegon Bay of Lake Superior (see map). The Band has reserved the right to assert authority over the entire length of Chequamegon Point in the future. The areas currently excluded from water quality standards regulation are relevant for this document because potential nesting sites of Piping Plover, one of the three endangered and threatened species in the area, are located on Chequamegon Point.

III. Federally-listed Species and Critical Habitat in the Action Area

A. <u>All Endangered and Threatened Species Potentially Present in the Action Area</u>

The July 2011 ESA information provided by the FWS Internet list for Ashland and Iron Counties is summarized below, and all species are potentially present within the Bad River Reservation.

Listed Species	Status	Critical Habitat?	Aquatic-dependent?
Piping Plover* (*Charadrius melodus*)	Endangered	Yes	Yes
Gray Wolf** (*Canis lupus*)	Endangered	No	No
Canada Lynx** (*Lynx canadensis*)	Threatened	No	No

*Ashland County
**Ashland and Iron County

Since the Gray Wolf and the Canada Lynx are not aquatic, or aquatic-dependent, they will not be affected by EPA's action to approve the Band's standards. Piping Plover, however, is dependent on aquatic shoreline habitat and certain aquatic prey items. Piping Plover therefore is the main species targeted for this evaluation.

B. Designated Critical Habitat Potentially Present in the Action Area

Critical habitat for Piping Plover is designated very close to, or potentially overlapping the Bad River Reservation near the base of Chequemegon Point. This area is described via personal communication with Joel Trick at FWS as: *"WI–2: Ashland County, Wisconsin. From USGS 1:24,000 quadrangle maps Cedar, Wisconsin (1964, photorevised 1975); Chequamegon Point, Wisconsin (1964, photorevised 1975); and Long Island, Wisconsin (1964). Lands 500 meters (1640 feet) inland from normal high water line from the southern boundary of T48N R3W, section 1 northwestward along the Lake Superior shoreline to Chequamegon Point Light."*

C. Aquatic or Aquatic-dependent Species Account

Piping Plover (*Charadrius melodus*) – Great Lakes Population

The Great Lakes population of the Piping Plover was listed as an endangered species in January of 1986. Around the Great Lakes, this small shorebird breeds on sand and gravel shorelines, and behind foredunes among cobble and sparse vegetation on islands (NatureServe 2006j). Food consists of worms, fly larvae, beetles, crustaceans, mollusks, and other invertebrates. The chicks learn to feed themselves and eat smaller versions of adult food items. Open shoreline areas are preferred, and vegetated beaches are avoided (NatureServe 2006j).

In the Great Lakes region the Piping Plover historically inhabited beaches in Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin, and also Ontario, Canada. While never abundant in the Great Lakes region, presettlement population size in the region was estimated at between 492 and 682 breeding pairs (USFWS 2003b). By the time the species was listed in 1986, the Great Lakes population was limited to only breeding 17 pairs, all in Michigan (NatureServe 2006j). More recently, the Great Lakes population of Piping Plovers has gradually increased with 34

breeding sites, including two in Wisconsin: Chequamegon Point – Long Island, Ashland County (1998 and 1999), and Marinette County (2001, USFWS 2003b). In 2001 the FWS designated six critical habitats located all or in part in Wisconsin (Federal Register, May 7 2001):

- Douglas County, Interstate Island, Duluth Harbor (used for nesting since 1985)
- Douglas County, Wisconsin Point (used for nesting prior to 1985)
- Ashland County, Long Island, Chequamegon Point (current nesting site)
- Ashland County, Western Michigan Island (suitable nesting site)
- Marinette County, Seagull Bar (suitable nesting site)
- Manitowoc County, Point Beach State Forest (suitable nesting site)

An important cause of decline in the Atlantic Piping Plover population was late 19th century and early 20th century shore bird hunting; the extent to which hunting may also have played a major role in the decline of the Great Lakes population is uncertain. It is probable that increasing habitat loss due to recreational and other developments, predation, and contaminants have been responsible for continued declines in the Great Lakes population since the 1940s (USFWS 2003b). Additional stressors on the population include dune stabilization leading to vegetative encroachment, high water levels, flooding, eroding beaches, human disturbance via vehicular or foot traffic, wetland drainage, and modification of river flows (USFWS 1994b). Researchers have found that less than 8 percent of the available beach habitat was suitable for Piping Plover nesting (NatureServe 2006j).

Future threats to the survival of the species are generally similar to the causes of the decline of this species. Although the precise magnitude of the threat from contaminants is unknown, contaminant levels in the eggs of Great Lakes Piping Plovers exceed those of the Atlantic and Great Plains populations and polychlorinated biphenyls (PCB) concentrations from Michigan Piping Plover eggs have the potential to cause reproductive impairment (USFWS 2003b). In addition, the threat of an oil spill in the Gulf of Mexico would jeopardize wintering populations of Piping Plovers. In general, the impacts of agricultural runoff, pesticide drift, botulism, and contaminants have not been adequately studied (USFWS 1994b).

IV. Summary of the Band's Water Quality Standards and EPA's Determination

The Bad River Reservation is located entirely within the Great Lakes Basin, therefore the requirements within the Water Quality Guidance for the Great Lakes System, 40 CFR 132 are applicable, in addition to 40 CFR 131. EPA regulatory requirements have been met. In most cases the Band's water quality standards are more protective than EPA regulatory requirements. EPA has made the following determinations for the endangered and threatened species and designated critical habitat:

A. "No effect" on Canada Lynx or Gray Wolf

EPA has determined that approval of the Band's standards will have no effect on Canada Lynx or Gray Wolf because these species are not aquatic, or aquatic-dependent. The Canada Lynx and Gray Wolf have minimal direct exposure to pollutants in surface waters, and neither has a diet high in fish or aquatic organisms.

B. "May affect, not likely to adversely affect" Piping Plover

EPA has determined that approval of the Band's standards will have potential beneficial effects for Piping Plover and that the likelihood of adverse impacts are insignificant or discountable due to the following:

- Currently there is a gap in water quality standards protection for the Bad River Reservation because the State of Wisconsin water quality standards are not applicable within tribal boundaries. With EPA approval of the Band's standards it's expected that there may be beneficial effects on Piping Plovers. Habitat suitable for Piping Plovers may also be protected by the Band's standards as described in the Wildlife designated use (i.e. supports the proper habitat for propagation of wildlife) and the wetland designated use (i.e. preserving wildlife habitat).

- Chequamegon Point on Long Island in Ashland County has been identified as a current nesting site. Although the Point extends outward from the Bad River Reservation, the Band's water quality standards are not applicable to this area. The Tribe is not asserting water quality standards regulatory authority over the waters of Lake Superior, or Chequamegon Point at this time.

- The Band adopts identical aquatic life criteria requirements as contained within EPA regulations at 40 CFR 132, Tables 1 and 2. These criteria were designed to protect a vast majority of Great Lakes aquatic species (fish, shellfish, macroinvertebrates, etc.). Piping Plover, as a federally-listed endangered species should therefore not be expected to incur any significant losses of aquatic prey items due to EPA approval of the Band's standards.

- The Band adopts identical wildlife criteria requirements as contained within EPA regulations at 40 CFR 132, Table 4. These criteria were designed to protect aquatic-dependent birds and mammals which have mainly a fish diet. Although does not have a diet high in fish, the wildlife criteria for pollutants such as DDT, mercury, PCBs and dioxin are likely to provide incidental protection for the species.

- All human health criteria within the Band's standards have been modified using a higher level of fish consumption by humans. EPA assumes a rate of 15 g/day within the regulatory human health criteria calculations. The Band recalculated the criteria using a 142.4 g/day subsistence fish consumption rate. The shaded area of Table 1 show where the Band's human health criteria become more stringent than EPA's recommended aquatic life or wildlife criteria. Since the Band's human health criteria

in Table 1 apply to waters designated for cultural and recreational protection (applicable to all water bodies), they become the applicable criterion for any permitted discharge. While EPA does not consult with the FWS on criteria to protect human health, the criteria adopted by the Band, because of their high degree of stringency, provide an added, (if unquantifiable), level of protection for aquatic life and the aquatic-dependent species, such as Piping Plover, that rely upon them.

TABLE 1.

	EPA's Regulatory Requirement in µg/L For Aquatic Life (AL), or Wildlife (W) protection	**Band's Aquatic Life, or Wildlife Criterion (µg/L)**	**Band's Human Health Criterion (µg/L)**
Mercury	0.9081 (AL)	0.9081 (AL)	0.000194
Mercury	0.0013 (W)	0.0013 (W)_	0.000194
Dieldrin	0.056 (AL)	0.056 (AL)	0.00000068
2,3,7,8-TCDD	3.1 E-9	3.1 E-9	9.1 E-10
Lindane	0.95 (AL)	0.95 (AL)	0.0523
PCBs	0.00012 (W)	0.00012 (W)	2.7E-6

- There are only three National Pollutant Discharge Elimination System (NPDES) permitted dischargers located on the Reservation for tribal wastewater treatment facilities (see map). EPA will remain the NPDES permitting authority for the Band and will continue to ensure that section 7 coordination and/or consultation is addressed for each new or revised permit issued by EPA. This will provide additional oversight related to ESA issues.

- The Band includes a very protective antidegradation policy which includes four policy levels of protection (EPA requires only three levels or tiers of protection). The two most protective levels of protection in the standards are described as Outstanding Tribal Resource Waters (OTRW) and Outstanding Resource Waters (ORW). At the OTRW protection level, all new or increased discharges of pollutants, or any alteration of the background conditions, are not allowed. ORWs allow discharges but at a very restricted level; no bioaccumulative chemicals of concern are allowed, and there must be no change background conditions. While EPA does not consult with the FWS on antidegradation, the policy adopted by the Band protects water quality for an added, (if unquantifiable), level of protection for aquatic life and the aquatic-dependent species, such as Piping Plover, that rely upon them.

- Protection of endangered and threatened species is provided in the Band's mixing zone policy which prohibits mixing zones when it will threaten endangered or threatened species and their habitats.

- EPA's proposed approval of the Band's water quality standards will mainly focus efforts on limiting the discharge of contaminants within tribal boundaries and the Lake Superior basin. Great Lakes Piping Plover spend only 1/3 of the year in the area and since the precise magnitude of the threat from contaminants is unknown, it's likely the threats already identified (e.g. predation, loss of habitat, shoreline

development, etc.) will continue to be the main issue for management and recovery of the species.

C. "No destruction or adverse modification" of Piping Plover Designated Critical Habitat

EPA has determined that approval of the Band's standards will not result in the destruction or adverse modification of Piping Plover designated critical habitat. Consistent with ESA section 4(b)(2), critical habitat is not usually designated within tribal boundaries when the FWS determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, based on the best scientific and commercial data available (16 U.S.C.§1533(b)(2)). If tribal managers can provide equal or better conservation for Piping Plover than what the designation of critical habitat would provide, it's expected that the continuation and strengthening of cooperative partnerships between the FWS, EPA and the Tribe will adequately protect designated critical habitat areas. Designated critical habitat on tribal lands becomes a major issue for federal agencies to cooperatively investigate only when a failure to designate tribal lands as critical habitat will result in extinction of the species concerned. The issue of species extinction has not been raised for the Piping Plover critical habitat designation which exists close to the tribal boundary near the base of Chequemegon Point.

Over the last three years, the Bad River Tribe has worked cooperatively with federal partners (i.e. National Park Service and the FWS) to monitor the Piping Plover population on Long Island. The Tribe has dedicated one of its Conservation Wardens to provide transportation to and from Long Island for the monitoring of Piping Plovers. The FWS and the Bad River Band also have a cooperative agreement in 2011 focusing on the monitoring of Piping Plover nests on Long Island. For other areas, such as the mouth of the Bad River, where suitable habitat for Piping Plovers exists, the Tribe has designated these areas as Conservation Areas within their Integrated Resources Management Plan (Bad River Tribe, 2001). Conservation Areas are provided special protection by the Tribe from timber harvest, and future residential, industrial and recreational development. The FWS, EPA and the Bad River Tribe are committed to working cooperatively to ensure that EPA approval of the Band's standards will not result in any destruction or adverse modification of Piping Plover critical habitat close to, or potentially overlapping, the Reservation borders.

V. Concurrence Requested: EPA requests concurrence on the analysis within this biological evaluation that approval of the Band's proposed standards will not likely adversely affect the Piping Plovers within Bad River Reservation boundaries, or result in the destruction or adverse modification of Piping Plover designated critical habitat.

_____ **Concur**

_____ **Do Not Concur** _____

(Field Supervisor's Signature)

VI. Literature Cited

Bad River Band of Lake Superior Tribe of Chippewa Indians. 2001. Integrated Resources Management Plan.

NatureServe 2006j. Comprehensive report for *Charadrius melodus*. http://www.natureserve.org/explorer/servlet/NatureServe?searchName=Charadrius+melodus.

U.S. Fish and Wildlife Service. 1994b. Revised Recovery Plan for Piping Plovers (*Charadrius melodus*) Breeding on the Great Lakes and Northern Great Plains. Technical/Agency Review Draft prepared by the Great Lakes/Northern Great Plains Piping Plover Recovery Team. 127 pp.

U.S. Fish and Wildlife Service. 2003b. Recovery Plan for the Great Lakes Piping Plover (*Charadrius melodus*). Region 3, U.S. Fish and Wildlife Service, Fort Snelling, MN. 141 pp.